

INITIAL ENVIRONMENTAL EXAMINATION (IEE) for

Grain Research and Innovation (GRAIN) Project in Afghanistan

ACTIVITY / PROJECT / PROGRAM INFORMATION:

Title of Activity / Project: Grain Research and Innovation (GRAIN) Project in Afghanistan

Lab Program Area: Center for Development Research, Higher Education Solutions
Network

Applicant Organization: Michigan State University

Country / Region: Afghanistan

Funding Period: 2016-2021

Total Funding Amount: \$19,500,000

Life of IEE: Life of project

September

2014

(CGIAR

IEE)

IEE Amendment: Yes ☒ No ☐ If yes, date of original IEE

IEE Prepared by: Emmanuella Delva **Current Date:** 11/14/2016

Environmental Action Recommended: (Place X where applicable)

Categorical Exclusion ☒

Deferral ☐

Positive Determination ☐

Negative Determination w/Conditions ☒

Purpose and Scope of IEE

The purpose of this IEE, in accordance with Title 22, Code of Federal Regulations, Part 216 (22 CFR 216), is to provide a preliminary review of the reasonably foreseeable effects on the environment of activities under the *Grain Research and Innovation (GRAIN) Project in Afghanistan* and on this basis to recommend determinations and, as appropriate, associated mitigation conditions for these activities. Once this IEE is approved, the recommended determinations are affirmed as 22 CFR 216 Threshold Decisions and/or Categorical Exclusions, and mitigation conditions become essential elements of implementing *Grain Research and Innovation (GRAIN) Project in Afghanistan*. This IEE is part of a mandatory environmental review and compliance process meant to achieve environmentally sound activity design and implementation.

SUMMARY OF ACTIVITY / PROJECT

Afghanistan has the world's highest annual per capita wheat consumption (160 kg/year), and wheat flour supplies 57 percent to the total caloric intake. While Afghanistan's GDP growth rate is projected to decline in the coming years, the consumption demand for wheat flour will not, given the importance of wheat in the Afghan diet. As a result, it is likely that, in the future, Afghan households will have to dedicate a larger share of their income to purchasing wheat, at the expense of dietary diversity. Moreover, with projected population growth, it is estimated that Afghanistan must increase its wheat production 20-28%. While wheat and flour prices have fallen from the record levels set in 2008, they have steadily increased in recent years and are projected to increase through 2021. These trends lend weight to the importance of increasing the domestic production of wheat as a food security objective (USAID 2014).

The goal of GRAIN will be to enhance the productivity, profitability and climate resilience of wheat based systems through improved agronomic practices, better access to high-yielding seed varieties and appropriate inputs, improved wheat genetics, post-harvest management, and better linkages to private seed sector and other actors along the wheat value chain. In order to achieve these gains Afghanistan must develop a system such that government, universities, and the private sector come together to support research in all of the above areas. GRAIN will work to strengthen the capacity for grain research, particularly wheat research, of the Ministry of Agriculture, Irrigation and Livestock (MAIL) and the Directorates of Agriculture, Irrigation and Livestock (DAILs), so that the national government can develop and improve locally adapted grain varieties and cultivation practices. The GRAIN activity will also strengthen the capacity of MAIL's research branch, the Agricultural Research Institute of Afghanistan (ARIA), to identify, obtain, screen, and characterize potentially HYVs from outside the country for release in Afghanistan in collaboration with CIMMYT and/or ICARDA. Moreover, GRAIN will assist MAIL/ARIA in its production of high-quality breeder and foundation seed. This project will contribute to wheat productivity, food security, and farmer income in Afghanistan. In collaboration with partner universities and extension, GRAIN seeks to reach farmers with improved technology and assist with its adoption. It is envisioned that GRAIN will complement the efforts of the USAID-funded Afghanistan Agricultural Extension Program (AAEP-II), Regional Agricultural Development Projects (RADP's), and Capacity Building and Change Management Program (CBCMP-II), and the Australian Centre for International Agricultural Research (ACIAR) "Sustainable Wheat & Maize Production in Afghanistan" Project, as well as similar programs through the World Bank, other donors, and other international organizations.

The GRAIN Project will operate over five years and is fundamentally a human and institutional capacity development activity designed to enable ARIA and its partners to begin the establishment of a National Wheat Improvement Center (NWIC) that drives the wheat sector forward via research that delivers for the farmer and the private sector. This work will require strong MAIL/ARIA involvement; taking use of existing government facilities and improving and expanding local staff and their capacities. The center will include a screening and characterization program for introduced HYVs and, eventually, a wheat breeding program.

All activities currently planned for the GRAIN program have already been reviewed for environmental compliance at a programmatic level under a different program, the Consultative Group on International Agricultural Research (CGIAR), which is implemented worldwide by the USAID Bureau for Food Security (BFS) under Activity # 936-4111. BFS has already conducted an Initial Environmental Examination (IEE) for CGIAR (see Attachment 1), and that IEE lists eight groups of activities that are substantially similar to at least the initial activities envisioned for GRAIN, as shown in Attachment 2. Therefore, the environmental compliance threshold determinations for those eight groups of activities will be the same as the threshold determinations for the eight similar groups of activities under CGIAR (as listed in Attachment 2). Attachment 2 also lists required mitigation measures for the two groups of GRAIN activities whose threshold determinations are "Negative Determination with Conditions." Some of these mitigation measures BFS is requiring for CGIAR activities; some are new conditions required by the Lab BEO; all of them must be followed while implementing the GRAIN project.

The first 100 to 120 days of the GRAIN award will be a "flex period" where the implementers will: 1) conduct an evaluation of the wheat value chain in the target provinces to identify potential collaborators and partners operating in the same space as GRAIN; 2) facilitate a needs assessment and strategic planning exercise with MAIL, ARIA, universities and other stakeholders for building capacity for wheat research; and 3) in collaboration with stakeholders at the target institutions, finalize the objectives and work plan for the remaining time of the activity. Findings from the needs assessment may result in additional activities implemented under GRAIN. The CGIAR IEE and this IEE, which amends the CGIAR IEE to include the GRAIN project, are both written at a programmatic level, and all GRAIN activities, including new activities designed during the initial "flex period," will require environmental review and approval by the Lab BEO before obligation of funds.

FINDINGS, MONITORING AND REPORTING REQUIREMENTS, CONDITIONS OF IMPLEMENTATION

The US Global Development Lab Bureau Environmental Officer's threshold determinations for the Grain Research and Innovation (GRAIN) Project in Afghanistan project, and the associated required mitigation measures, are listed in Attachment 2.

1. The Higher Education Solutions Network/Global Center for Food Systems Innovation Agreement Officer's Representative—in consultation with the Lab Bureau Environmental Officer, any appropriate Mission Environmental Officer, and implementing partners—will actively monitor and report:
 - a. Whether measures designed to mitigate for environmental impacts specified in this IEE are followed;
 - b. Whether unforeseen environmental consequences caused by activities covered by this IEE arise during implementation in order to modify or end activities as appropriate. If activities that are not described in this IEE need to be added to the activity / project after implementation has begun, an amended environmental examination must be prepared.
2. Environmental mitigation and monitoring activities should be incorporated into activity / project Implementation Plans and Monitoring and Evaluation Plans. Adherence to the conditions set forth in this IEE shall be included in project indicator(s).
3. The Agreements Officer (AO) shall include required environmental compliance and reporting language into each implementation instrument and ensure that appropriate resources (budget), qualified staff, equipment, and reporting procedures are dedicated to this portion of the project.
4. Any sub-agreements or fund transfers from the implementing partner(s) to other organizations must incorporate provisions stipulating that:
 - a. A biannual (every six months) environmental mitigation and monitoring report (EMMR) must be completed; and
 - b. Activities to be undertaken will be within the scope of the environmental determinations and recommendations of this IEE. This includes assurance that any mitigation and monitoring requirements for those activities will be followed.
5. The AOR and/or USAID/Afghanistan Activity Manager will undertake field visits, as possible, and consultations with implementing partners to jointly assess ongoing activities, their environmental impacts, and associated mitigation and monitoring.
6. Based on the process outlined in the activity/project Implementation Plan, implementing partners' reports to USAID will also include brief updates on mitigation and monitoring measures being implemented, results of environmental monitoring, and any major modifications/revisions in the development activities and mitigation and monitoring procedures.
7. Implementation will in all cases adhere to applicable host country environmental laws and policies. In case of inconsistency between host country and US laws and regulations, the more stringent and protective shall govern.

Limitations of this IEE

This IEE does not cover activities involving:

1. Classes of actions normally having a significant effect on the environment pursuant to 22 CFR 216.2(d)(1):
 - i. Programs of river basin development;
 - ii. Irrigation or water management projects, including dams and impoundments;
 - iii. Agricultural land leveling;

- iv. Drainage projects;
 - v. Large scale agricultural mechanization;
 - vi. New lands development;
 - vii. Resettlement projects;
 - viii. Penetration road building or road improvement projects;
 - ix. Powerplants;
 - x. Industrial plants;
 - xi. Potable water and sewerage projects other than those that are smallscale.
2. Activities affecting endangered species.
 3. Activities introducing exotic species.
 4. Activities resulting in wetland or biodiversity degradation or loss.
 5. Support to extractive industries, e.g., mining and quarrying.
 6. Support for activities that promote timber harvesting.
 7. Activities involving privatization of industrial or infrastructure facilities.
 8. Assistance for the procurement (including payment in kind, donations, guarantees of credit) or use (including handling, transport, fuel for transport, storage, mixing, loading, application, cleanup of spray equipment, and disposal) of pesticides. Pesticides cover all insecticides, fungicides, rodenticides, etc., covered under the US Federal Insecticide, Fungicide, and Rodenticide Act. Any assistance for the procurement or use of pesticides under the GRAIN project must be evaluated and approved with a USAID-approved Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP).
 9. Procurement or use of genetically modified organisms.
 10. DCA programs.

Any of the above actions would require an amendment to the IEE approved by the Lab BEO.

Pursuant to 22 CFR 216.3(a)(9), if new information becomes available that indicates that activities covered by the IEE might be considered "major" and their effect "significant," or if additional activities are proposed that might be considered "major" and their effect "significant," this recommendation of **Negative Determination with Conditions** will be reviewed and, if necessary, revised by the Lab program office with concurrence by the Lab BEO. It is the responsibility of the USAID AOR to keep the BEO informed of any new information or changes in the activity that might require revision of the IEE.

APPROVAL OF ENVIRONMENTAL ACTION RECOMMENDED

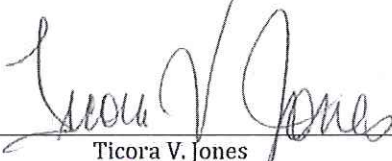
Recommended by:

Carol Shumway, Director, Center
for Development Research

 11/18/16
Carol Shumway Date

Concurrence:

Ticora V. Jones, Division Chief,
Higher Education Solutions
Network

 11/17/16
Ticora V. Jones Date

Bureau Environmental Officer:

 11/21/2016
Daniel M. Evans Date

Approved: ☒

Disapproved: ☐

Attachment 1. CGIAR IEE

Attachment 2. Table mapping GRAIN activities to CGIAR activities

Attachment 1

**INITIAL ENVIRONMENTAL EXAMINATION
and/or
REQUEST FOR CATEGORICAL EXCLUSION**

PROGRAM/ACTIVITY DATA

Program/Project Title: Consultative Group on International Agriculture Research (CGIAR)

Program/Project Number: Grant Numbers BFS-G-11-00002; Activity Number 936-4111

Project Country (ies): Worldwide

Funding Period: FY 2014 – FY 2019

Life of Activity Funding: \$500,000,000

IEE Amendment Yes ___ No X **If yes, date of original IEE:** _____

IEE Prepared by: Ahmed Kablan, BFS/ARP **Date** July 2014

ENVIRONMENTAL ACTION RECOMMENDED:

Categorical Exclusion: ☒

Negative Determination ☒

Positive Determination: ☐

Deferral: ☐

SUMMARY OF FINDINGS AND RECOMMENDED THRESHOLD DECISION

The Consultative Group on International Agriculture Research (CGIAR) includes a group of fifteen research centers that promotes sustainable agricultural development based on the environmentally sound management of natural resources. The 15 Research Centers generate and disseminate knowledge, technologies, and policies for agricultural development through the CGIAR Research Programs (CRPs). CGIAR centers conduct research programs in collaboration with a full range of partners in an emerging global agricultural research system.

The CGIAR is a global partnership that unites donors with organizations engaged in cutting-edge agricultural research, including innovative studies on a flood-tolerant version of rice, drought-tolerant maize and high-yield wheat. USAID's support of this multi-donor mechanism constitutes an important component of the U.S. Government's comprehensive approach to improving global food security, reducing rural poverty, improving human nutrition and health, and enhancing natural resource management. The approval of the Joint Agreement between the CGIAR Consortium and the Fund Council on April 5, 2011 was the result of several months of complex negotiations to harmonize diverse practices, policies and legal requirements of the various donors and stakeholders. By collaborating and partnering with bilateral donors and multilateral and international organizations, USAID's support of this global mechanism is an example of the procurement reform initiatives currently under implementation. Through this multi-donor mechanism USAID directly tasks CGIAR research centers/ or CRPs to carry out specific activities.

USAID previously supported this work through another multi-donor trust fund and through support to individual research centers since 1972. In late 2009 the CGIAR adopted a new business model that harmonizes the rules applicable to the funding of research proposals and clarifies the relationship between donors (the CGIAR Fund) and the research institutes (the Consortium). These two halves are linked by a Strategy and Results Framework (SRF), the results-oriented research agenda that implements the vision and strategic objectives of the CGIAR, as well as review, funding, and monitoring and evaluation mechanisms. The creation of the new CGIAR Fund is intended to support this new structure.

The CGIAR Fund is administered by the World Bank, as Trustee, and governed by the Fund Council. Represented by USAID's Bureau for Food Security, Office of Agricultural Research and Policy, USAID is a member of the Fund Council.

The reforms put into place under the new CGIAR structure are intended to increase efficiency and ensure accountability for fiduciary requirements. Performance and funding arrangements take the form of binding contracts between the Fund Council and the Consortium and with the research centers.

Fund Donors may designate use of the funds they contribute to the CGIAR Fund in three ways:

Window 1 – These funds may be allocated by the Fund Council, in consultation with the Consortium, to CGIAR Research Programs (CRPs) submitted by the Consortium and approved by the Fund Council on any aspect of SRF implementation, and anything else within the scope of SRF implementation that the Fund Council approves to fulfill its responsibilities, obligations and funding of the overhead structure at the executive level. Fund Donors may not allocate Window 1 funds against specific programs or activities, and therefore do not have the ability to attribute particular outcomes or activities against Window 1 contributions.

Window 2 – These funds are directed by Fund Donors to specific CRPs proposed by the Consortium and approved by the Fund Council as eligible to receive Window 2 subaccount funding. For each such CRP, funds received into Window 2 are limited to the total budget amount approved by the Fund Council for that CRP. Window 2 funds may be released by the Fund Council only in response to proposals submitted by the Consortium. Fund Donors may not designate Window 2 funds to specific activities within a CRP and therefore have limited ability to attribute particular outcomes or activities within a CRP against their Window 2 contributions.

Window 3 – These funds are directed by Fund Donors to individual Centers. Fund Donors may designate specific amounts to specific Centers for use at the Center's discretion or consistent with arrangements/scopes of work established between one or more Fund Donors and the relevant Center(s); provided such funds are used to implement aspects of the CRPs and provided further that such funds are used in accordance with the SRF and Common Operational Framework. Such allocations are not subject to review, allocation or approval by the Consortium or Fund Council, although their expected use will meet the objectives of the SRF and will be reported by each Center to the Consortium. The CRPs funded with Window 3 contributions are subject to the same review process as the CRPs funded with Windows 1 and 2, i.e., they still require Fund Council approval.

USAID's contributions via Windows 1, 2 and 3 are subject to the terms in the Contribution Agreement. The side agreements ensure that the research Centers assume the fiduciary and programmatic responsibility vis-à-vis USAID's contributions directed to specific Centers through Window 3. Because Fund Donors may specify, with the concurrence of the recipient center, how the Window 3 funds are allocated against specific activities, Fund Donors can attribute particular activities and outcomes against their Window 3 contributions.

The Fund Council has approved the following CGIAR Research Programs:

- 1.1 Integrated agricultural production systems for the poor and vulnerable in dry areas
- 1.2 Integrated systems for the humid tropics
- 1.3 Harnessing the development potential of aquatic agricultural systems for the poor and vulnerable
- 2 Policies, institutions and markets to strengthen food security and incomes for the rural poor
- 3.1 Wheat – Global alliance for improving food security and the livelihoods of the resource-poor in the developing world
- 3.2 Maize – Global alliance for improving food security and the livelihoods of the resource-poor in the developing world
- 3.3 GRiSP – a global rice science partnership
- 3.4 Roots, tubers and bananas for food security and income
- 3.5 Grain Legumes – enhanced food and feed security, nutritional balance, economic growth and soil health for smallholder farmers
- 3.6 Dryland cereals: food security, better health and economic growth for the world's most vulnerable poor.
- 3.7 More meat, milk and fish by and for the poor
- 4 Agriculture for improved nutrition and health
- 5 Water, land and ecosystems
- 6 Forests, trees and agroforestry
- 7 Climate change, agriculture and food security

Recommended Determinations

A large portion of the CGIAR's activities have no significant environmental impact potential. These include research and analysis of technologies, policies, markets and systems, local and national capacity building, which includes trainings, workshops and technical assistance. The majority of these activities qualify for categorical exclusions under 22 CFR 216.2(c).

The following table includes the recommended determinations for each class of activity associated with The Consultative Group on International Agriculture Research (CGIAR) It is fifteen research centers and the 15 Research CGIAR Research Programs (CRPs).

Activity	Recommended Determination
1. Research and analysis of technologies, policies, markets and systems, local and national capacity building, which includes trainings, workshops and technical assistance.	<p>Categorical Exclusion, per</p> <ul style="list-style-type: none"> • 22CFR 216.2(c)(i) Education, technical assistance, or training programs • 22 CFR 216 (c)(2)(iii) Analyses, studies, academic or research workshops and meetings
2. All activities funded under Window 1 that may use pesticides, fertilizers and / or genetically engineered organisms (where Fund Donors may not allocate Window 1 funds against specific programs or activities, and therefore do not have the ability to attribute particular outcomes or activities against Window 1 contributions)	<p>Negative Determination, subject to the following conditions</p> <ul style="list-style-type: none"> • CGIAR centers funded under Window 1 to follow each centers 'best practices' or environmental guidelines on pesticides, fertilizers, genetically engineered organisms use and application and other environmental considerations. • In the event that a center or a research program is found noncompliant with the following procedures for pesticide use and handling, USAID will raise the issue at the Fund Council in its role as a member and pursue corrective actions in a multilateral context. Procedures for safe use and handling of pesticides include: <ul style="list-style-type: none"> ○ Appropriate pesticide use protocols to safeguard the health of research personnel and to protect local ecosystems are developed and implemented, based on toxicological and environmental data for the proposed pesticides.¹ ○ Such safeguards will address pesticide storage, handling and application, including the use of Personal Protective Equipment (PPE), clean-up and disposal. ○ Pesticide-treated crops will not be used for human or animal consumption without proper evaluation and plan for safe use.
3. All activities funded under Window 2 that may use pesticides, fertilizers and / or genetically engineered organisms (where Fund Donors may not designate Window 2 funds to specific activities within a CRP and therefore have limited ability to attribute particular outcomes or activities within a CRP)	<p>Negative Determination, subject to the following conditions</p> <ul style="list-style-type: none"> • CGIAR Research Programs (CRPs) funded under Window 2 to follow each centers 'best practices' or environmental guidelines on pesticides, fertilizers, genetically engineered organisms use and application and other environmental considerations. • In the event that a center or a research program is found noncompliant with the following procedures for pesticide use and handling, USAID will raise the issue at the Fund Council in its role as a member and pursue corrective actions in a multilateral context. Procedures for safe use and handling of pesticides include: <ul style="list-style-type: none"> ○ Appropriate pesticide use protocols to safeguard the health of research personnel and to protect local ecosystems are

¹ Per 22 CFR 216 3(b)(2)(iii) (Exceptions to Pesticide Procedures)

<p>against their Window 2 contributions)</p>	<p>developed and implemented, based on toxicological and environmental data for the proposed pesticides.²</p> <ul style="list-style-type: none"> ○ Such safeguards will address pesticide storage, handling and application, including the use of Personal Protective Equipment (PPE), clean-up and disposal. ○ Pesticide-treated or genetically engineered crops will not be used for human or animal consumption without proper evaluation and plan for safe use.
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² Per 22 CFR 216.3(b)(2)(iii) (Exceptions to Pesticide Procedures)

<p>4. All activities funded under Window 3 (USAID funds are directed toward the particular activity) that involve genetically engineered organisms (GEOs) are subject to USAID biosafety policies and procedures and may require a separate biosafety review prior to the activity</p>	<p>Negative Determination, subject to the following conditions</p> <ul style="list-style-type: none"> • For activities involving genetically engineered organisms taking place in physically contained and controlled facilities such as laboratories, greenhouses, or animal barns, grantees must follow the National Institutes of Health "Guidelines for Research Involving Recombinant DNA Molecules" (http://oba.od.nih.gov/rdna/nih_guidelines_oba.html), as well as any applicable regulations in the country where the activity takes place. • For all activities that involve the use of life or life attenuated viruses or other microorganisms for vaccine development and /or proof of concept research activities Must: <ul style="list-style-type: none"> ○ <u>Follow appropriate competent authority and host institution biosafety guidelines and containment procedures</u> ○ <u>Follow the OIE (World Organization for Animal Health) guidelines for biosafety and biosecurity in the veterinary microbiology laboratory and animal facilities for group 2 or 3 pathogen (depending on the classification of the pathogen being used):</u> http://www.oie.int/fileadmin/home/eng/health_standards/tahm/1.01.03_biosafety.pdf ○ <u>Follow the biosafety procedures and good laboratory practices outlined in Section IV of the CDC Biosafety in Microbiological and Biomedical Laboratories (BMBL 5th edition,</u> http://www.cdc.gov/biosafety/publication/bmb15/) For large scale vaccine production beyond the piloting/proof of concept stage an amendment to this IEE is required to cover the environmental safety for the new activity • For activities involving confined field trials of genetically engineered organisms conducted on research sites owned or directly managed by the CGIAR center leading the activity, all centers will operate according to the guidelines established in their biosafety procedures, subject to review by their institutional biosafety committee, as well as any applicable regulations in the country where the activity takes place. • For activities that involve confined field trials (CFTs) of genetically engineered organisms on research sites managed by non-CGIAR partners and not directly controlled by the CGIAR center leading the activity, a biosafety review is required in accordance with USAID biosafety procedures, which requires submission of a supplemental CFT proposal to USAID for external
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	<p>review accompanied by evidence of host country biosafety approval for the specific activity¹. This biosafety review will be incorporated into a biosafety amendment to the Initial Environmental Evaluation with final concurrence required by the BFS Bureau Environmental Officer and the Agency Biosafety Officer.</p> <ul style="list-style-type: none"> For activities that involve the on farm field testing or deliberate open release of genetically engineered organisms into the environment, a biosafety review may be required, subject to the Agency Biosafety Officer's discretion and in accordance with USAID biosafety procedures, which requires submission of a supplemental proposal to USAID for external review accompanied by evidence of host country biosafety approval for the specific activity². This biosafety review will be incorporated into a biosafety amendment to the Initial Environmental Evaluation with final concurrence required by the BFS Bureau Environmental Officer and the Agency Biosafety Officer.
5. All non-GEO activities funded under Window 3 that involve applied research trials not exceeding 4 ha in a single location and DO NOT involve support for procurement or use of pesticides	<p>Categorical Exclusion, per</p> <p>22 CFR 216.2 (c)(2)(ii) Controlled experimentation exclusively for the purpose of research and field evaluation which are confined to small areas and carefully monitored</p>
6. All non-GEO activities funded under Window 3 that involve applied research trials not exceeding 4 ha in a single location DOES involve the procurement or use of pesticides	<p>Negative Determination, subject to the following conditions:</p> <ul style="list-style-type: none"> Appropriate pesticide use protocols to safeguard the health of research personnel and to protect local ecosystems are developed and implemented, based on toxicological and environmental data for the proposed pesticides.³ <p>Such safeguards will address pesticide storage, handling and application, including the use of Personal Protective Equipment (PPE), clean-up and disposal.</p>

¹ Information on biosafety application can be found at <http://rmportal.net/library/content/tools/environmental-regulations-compliance-tools>

Other regulatory information related to USAID biosafety could be found at:

http://www.usaidgems.org/Documents/complianceTopics/Biosafety_SFEB2010.pdf,

http://www.usaidgems.org/Documents/Presentations/6_22CFR216_10Oct2012.pdf,

<http://rmportal.net/library/content/tools/environmental-regulations-compliance-tools/tool-environmental-compliance-regulation-216-faa>

² Information on biosafety application can be found at <http://rmportal.net/library/content/tools/environmental-regulations-compliance-tools>

Other regulatory information related to USAID biosafety could be found at:

http://www.usaidgems.org/Documents/complianceTopics/Biosafety_SFEB2010.pdf,

http://www.usaidgems.org/Documents/Presentations/6_22CFR216_10Oct2012.pdf,

<http://rmportal.net/library/content/tools/environmental-regulations-compliance-tools/tool-environmental-compliance-regulation-216-faa>

³ Per 22 CFR 216.3(b)(2)(iii) (Exceptions to Pesticide Procedures)

	<ul style="list-style-type: none"> • Pesticide-treated crops will not be used for human or animal consumption. (If crops are used for consumption, then this activity may be subject to development of a PERSUAP [see Section 4 of this IEE]; suspend activity and consult with the REA or BEO).¹
7. All non-GEO Activities funded under Window 3 that involve pesticides/insecticides and do not involve applied research exceeding 4 ha in a single location	<p>Negative Determination, subject to the following conditions:</p> <ul style="list-style-type: none"> • Implementation of environmental best management practices (BMPs) for agriculture and irrigation. Such BMPs are available from USAID in the <i>Sector Environmental Guidelines</i> (available at http://www.usaidgems.org/sectorGuidelines.htm and http://www.encapafrica.org/egssaa.htm) • The procurement or use, promotion of, or training in use of pesticides, including herbicides and fungicides, is disallowed until such time that a Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) is completed pursuant to 22CFR Regulation 216.3 (b)—USAID Pesticide Procedures—and duly approved.²
8. All non-GEO Activities funded under Window 3 that do not involve pesticides/ insecticides and do involve applied research exceeding 4 ha in a single location	<p>Negative Determination, subject to the following conditions</p> <ul style="list-style-type: none"> • Implementation of environmental best management practices (BMPs) for agriculture and irrigation with particular. Such BMPs are in place at the respective CGIAR centers, and also available from USAID in the <i>Sector Environmental Guidelines</i> (available at http://www.usaidgems.org/sectorGuidelines.htm and http://www.encapafrica.org/egssaa.htm)
9. All activities funded under Window 3 that involve pesticides/ insecticides may be subject to additional environmental compliance procedures	<p>Negative Determination, subject to the following conditions:</p> <ul style="list-style-type: none"> • Appropriate pesticide use protocols to safeguard the health of research personnel and to protect local ecosystems are developed and implemented, based on toxicological and environmental data for the proposed pesticides.³ • Such safeguards will address pesticide storage, handling and application, including the use of Personal Protective Equipment (PPE), clean-up and disposal. • Pesticide-treated crops will not be used for human or animal consumption. (If crops are used for consumption, then this activity may be subject to development of a PERSUAP <u>[see Section 3 of this IEE]; suspend activity and consult with the REA or BEO).</u>⁴ <p>Activities on farms or field trials < 4 hectares are recommended for Negative Determination, subject to the following conditions:</p> <ul style="list-style-type: none"> • Appropriate pesticide use protocols to safeguard the health of research personnel and to protect local ecosystems are developed

¹ See also restrictions on genetically engineered organisms, Section 4.

² See also restrictions on genetically engineered organisms, Section 4

³ Per 22 CFR 216.3(b)(2)(iii) (Exceptions to Pesticide Procedures)

⁴ See also restrictions on genetically engineered organisms,

	<p>and implemented, based on toxicological and environmental data for the proposed pesticides.¹</p> <ul style="list-style-type: none"> • Such safeguards will address pesticide storage, handling and application, including the use of Personal Protective Equipment (PPE), clean-up and disposal. • Pesticide-treated crops will not be used for human or animal consumption. (If crops are used for consumption, then this activity may be subject to development of a PERSUAP <u>[see Section 3 of this IEE]: suspend activity and consult with the REA or BEO</u>).² <p>Activities conducted on areas > 4 hectares are recommended for a Negative Determination, subject to the following conditions:</p> <ul style="list-style-type: none"> • Preparation of PERSUAP consistent with guidance established in 22 CFR 216.3 "Pesticide Procedures" prior to procurement, distribution, use, handling, transport, or disposal of any pesticides
10. Activities funded under Window 3 and where the activity is not primarily limited scope research. Examples include: (large-scale agricultural or agro-forestry field trials, scale-up or commercialization of bio-technologies or veterinary pharmaceuticals) ,	May require a separate IEE amendment addressing the particular activities they are funding, to include the above considerations for genetically engineered organisms and/or pesticides. BFS BEO is responsible for making the determination on whether a Mission funded activity requires an IEE amendment.
11. Activities funded under Window 3, in particular where a USAID Mission is providing funding and management oversight, and where the activity is not primarily research	May require a separate IEE amendment addressing the particular activities they are funding, to include the above considerations for genetically engineered organisms and use of insecticides or pesticides. BFS BEO or Mission EO is responsible for making the determination on whether a Mission funded activity requires an IEE amendment.

¹ Per 22 CFR 216.3(b)(2)(iii) (Exceptions to Pesticide Procedures)

² See also restrictions on genetically engineered organisms,

Recommended By:

Date _____

9/18/14

Concurrence:

Date _____

9/19/18

Approved: _____

Disapproved: _____

K. W. S.

9/18/14

Date _____

~~Dr. K. K. K.~~

Drafted by:

Date _____

Initial Environmental Examination (IEE)

Program/Activity Data

Program/Project Title: Consultative Group on International Agriculture Research (CGIAR)
Program/Project Number: Grant Number BFS-G-11-00002; Activity Number 936-4111
Project Countries: Worldwide
Funding Period: FY 2014 – FY 2019
Life of Activity Funding: \$500,000,000

I. Background and Activity/Program Description

i. Purpose and Scope of IEE

This IEE covers USAID's funding support to the Consultative Group on International Agriculture Research (CGIAR). CGIAR supports fifteen research centers that conduct research, analysis and capacity-building activities to sustainably increase agricultural productivity, better manage natural resource use, and favorably impact the policy environment in developing countries. The 15 Research Centers generate and disseminate knowledge, technologies, and policies for agricultural development through the CGIAR Research Programs (CRPs). The CGIAR is a global partnership that unites donors with organizations engaged in cutting-edge agricultural research, including innovative studies on a flood-tolerant version of rice, drought-tolerant maize and high-yield wheat.

USAID's support of this multi-donor mechanism constitutes an important component of the U.S. Government's comprehensive approach to improving global food security, reducing rural poverty, improving human nutrition and health, and enhancing natural resource management. By collaborating and partnering with bilateral donors and multilateral and international organizations, USAID's support of this global mechanism is an example of the procurement reform initiatives currently under implementation.

USAID's contributions via Windows 1, 2 and 3 are subject to the terms in the Contribution Agreement. The side agreements ensure that the research Centers assume the fiduciary and programmatic responsibility vis-à-vis USAID's contributions directed to specific Centers through Window 3.

This IEE covers all activities that may be funded by USAID through Window 3 of this multi-donor mechanism.

ii. Background

CGIAR, established in 1971, is an informal association of fifty-five public and private sector members that supports a network of fifteen international agricultural and natural resource research centers. In 2008 CGIAR underwent a major transformation; part of this transformation was the creation of 15 Research programs (CGIAR Research Program or CRPs). The CGIAR uses these CRPs to generate and disseminate knowledge,

technologies, and policies for agricultural development. CGIAR research is dedicated to reducing rural poverty, increasing food security, improving human health and nutrition, and ensuring more sustainable management of natural resources. It is carried out by 15 Centers that are members of the CGIAR Consortium, in close collaboration with hundreds of partner organizations, including national and regional research institutes, civil society organizations, academia, and the private sector. CGIAR's mission is to contribute to food security and poverty eradication in developing countries through research, partnership, capacity building, and policy support.

CGIAR promotes sustainable agricultural development based on the environmentally sound management of natural resources. CGIAR centers conduct research programs in collaboration with a full range of partners in an emerging global agricultural research system. CGIAR's work has had lasting impact in developing countries. Through the application of research-based technologies, tools and methods, food productivity, quality and nutritional content have increased. Policies are more rational and institutions are stronger.

CGIAR has four strategic system-level outcomes:

Reduced rural poverty: It has long been known that growth in agriculture, achieved through improved productivity and better developed markets, reduces poverty, especially in the initial stages of development.

Improved food security: Millions of poor people in both urban and rural communities struggle to afford food, especially during global price spikes. Solving this problem requires an increase in global and regional supplies of key staples that will buffer food prices against volatility in global markets.

Improved nutrition and health: Poor people, particularly women and children, often suffer from a lack of micronutrients in their diets. The resulting malnutrition affects their health and development. This can be tackled by diversifying production systems and developing improved crop varieties.

Sustainably managed natural resources: This outcome is essential for both food production and the provision of ecosystem services to the poor, particularly in light of climate change.

CGIAR has five major research goals:

Increasing Productivity: CGIAR strives to make developing-country agriculture more productive through genetic improvements in plants, livestock, fish, and trees, and through better management practices.

Protecting the Environment: CGIAR's efforts increasingly aim to conserve natural resources and reduce the impact of agriculture on the surrounding environment.

Saving Biodiversity: CGIAR holds the world's largest *ex situ* collections of plant genetic resources in trust for the world community.

Improving Policies: CGIAR's research helps improve policies that strongly influence the spread of new technologies and the management and use of natural resources.

Strengthening National Research. CGIAR partners with colleagues in national programs, strengthening skills in research administration and management, and formal training programs for research staff.

iii. Description of Activities

CGIAR's fifteen research centers are located in various locations throughout the world. Below are brief descriptions of the activities of each under the *CGIAR Core Grant*. More information about the different CGIAR programs and of research activities can be found here: <http://www.cgiar.org/cgiar-consortium/research-centers/?map=active>

Bioversity International (IPGRI)

Bioversity International conducts research and analysis on agricultural biodiversity, conservation and biodiversity management strategies, including their use as a means to mitigate the impacts of climate change and water scarcity. Bioversity International develops tools, strategies and practices for the application of genetic diversity to improve productivity, resilience and resistance. Also, Bioversity International analyzes global and regional collaboration strategies for managing biodiversity and develops tools to enhance the capacity of its partners. More information and description of research activities can be found here: <http://www.bioversityinternational.org/>

International Center for Tropical Agriculture (CIAT)

CIAT provides basic research on its mandate crops of beans, cassava, and rice. CIAT also conducts research aimed at improving agricultural eco-efficiency through various interventions, including: improved conservation technologies, soil fertility management, sustainable land management, biodiversity management, payment for ecosystem services, biotechnology, and climate change adaptation and mitigation. CIAT also conducts policy analysis related to these topics. CIAT leads the Climate change, agriculture and food security CRP. More information and description of research activities can be found here: <http://ciat.cgiar.org/>

International Food Policy Research Institute (IFPRI)

IFPRI conducts research, analysis and assessments on the impacts on developing countries and agricultural markets of complex issues, for example climate change and globalization. IFPRI conducts analysis related to food and water safety policy, food policies for improved quality, social protection, and markets and investments. IFPRI also partners with countries to develop national biosafety systems. IFPRI leads two CRPs; The agriculture for improved nutrition and health CRP and the policies, institutions and market to strengthen food security and incomes for the rural poor CRP. More information and description of research activities can be found here: <http://www.ifpri.org/>

World Agroforestry Centre (ICRAF)

ICRAF conducts research and analysis on the application of agroforestry for biodiversity conservation and sustainable land management. ICRAF conducts research on the development of improved tree germplasm, tree seed and seed systems and provides technical support and advice to environmental officials and decision makers. ICRAF develops frameworks for proper carbon accounting through forests. More information and description of research activities can be found here:
<http://www.worldagroforestry.org/>

International Center for Agricultural Research in the Dry Areas (ICARDA)

ICARDA conducts research to address the fundamental challenges in dry areas including climate change adaptation, natural resource management, and agricultural productivity. More information and description of research activities can be found here:
<http://www.icarda.cgiar.org/>

ICARDA carries out agrobiodiversity and genetic resource conservation-related projects and conducts conventional breeding and biotechnology research to improve the productivity of crops essential in drier ecosystems such as lentil, barley, faba bean, wheat, and chickpea. ICARDA leads the Integrated agricultural production systems for the poor and vulnerable in dry areas CRP. More information and description of research activities can be found here: <http://www.icarda.cgiar.org/>

International Rice Research Institute (IRRI)

IRRI employs conventional breeding and biotechnology to develop highly productive and well-adapted rice varieties. IRRI conducts research and analysis on trends in the economic, social and policy environments as it relates to rice-based systems, as well as advises policymakers, research managers and donors regarding effective agricultural interventions in rice-based systems. IRRI leads the GRiSP-a global rice science partnership CRP. More information and description of research activities can be found here: [www. http://irri.org/](http://www.irri.org/)

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)

ICRISAT conducts conventional and biotechnological research aimed at productivity and nutritional improvements and researches and analyzes agricultural and economic systems focused on the semi-arid tropics. ICRISAT also develops policies and practices for managing, acquiring and making available genetic resources. Finally, ICRISAT enhances partners' capacity through the provision of scientific inputs, technological support, the development of simulation tools, and knowledge management. ICRISAT leads two CRPS, the Grain Legumes-enhanced food and feed security, nutritional balance, economic growth and soil health for smallholder farmers CRP and the Dryland Cereals: food security, better health and economic growth for the world's most vulnerable poor CRP. More information and description of research activities can be found here:
<http://www.icrisat.org/>

International Livestock Research Institute (ILRI)

ILRI conducts research and develops tools related to livestock markets, production systems, technologies and policies. ILRI employs conventional research and biotechnology to improve disease control and product safety. ILRI develops vaccines and diagnostics for animal diseases, as well as strategies for production, commercialization and distribution of vaccines. ILRI conserves, manages, and documents animal and forage genetic resources and conducts research to improve their utilization. ILRI provides technical assistance regarding institutional development and the development of health and food safety standards. ILRI leads the more meat, milk and fish by and for the poor CRP. More information and description of research activities can be found here: <http://www.ilri.org/>

WorldFish Center (ICLARM)

WorldFish conducts research and analysis of fisheries and aquaculture related to environmental challenges, markets, governance and policy. WorldFish develops technologies and methodologies for seed and feed improvement and dissemination. WorldFish develops tools and frameworks for technological dissemination, management of ecosystems, small-scale farms and natural resources, as well as conducts risk assessments. Also, WorldFish provides technical assistance to institutions to strengthen rights and political engagement. WorldFish leads the Harnessing the development potential of aquatic agricultural systems for the poor and vulnerable CRP. More information and description of research activities can be found here: <http://www.worldfishcenter.org/>

International Institute of Tropical Agriculture (IITA)

IITA conducts analyses of markets, farming systems, institutions and policies. IITA develops varieties of germplasm with improved resistance to disease and environmental shocks, and with enhanced resource use efficiency focusing on cassava, maize, cowpea, soybean, banana, and plantain. IITA conducts analyses and develops tools related to farm management, crop production, pest management, and capacity building. IITA develops techniques for collection, conservation and regeneration of germplasm, as well as capacity building for national genetic resource banks. IITA leads the Integrated systems for the humid tropics CRP. More information and description of research activities can be found here: <http://www.iita.org/>

Center for International Forestry Research (CIFOR)

CIFOR develops tools and methods for assessing and measuring the role of forests in climate change mitigation, as well as measuring the impact of climate change on forests. CIFOR conducts political, economic and policy analyses related to climate change, as well as analysis regarding forest-related trade and investment and governance. CIFOR develops and proposes tools related to farm management, measuring environmental services, conflict mitigation and strengthening local organizations. CIFOR develops principles, methods and processes to optimize conservation and livelihoods through land use rights. CIFOR leads the Forests, trees and agroforestry CRP. More information and description of research activities can be found here: <http://www.cifor.org/>

International Potato Center (CIP)

CIP conducts conventional and biotechnological research to develop and disseminate potato, sweet potato, and other root crop varieties resistant to blight, disease and infestation. CIP conducts system and socioeconomic analyses as well as compiles biosafety data. CIP also develops strategies to engage stakeholders and communicate research outcomes to targeted audiences. CIP leads the Roots, tubers and bananas for food security and income CRP. More information and description of research activities can be found here: www.cipotato.org

AfricaRice Center (WARDA)

AfricaRice conducts research and analysis on rice seed systems, crop management and value chains, as well as the political, social, institutional and technological environment. AfricaRice deploys conventional and biotechnological techniques to enhance the productivity of rice, and provides farmers with new germplasm that is adapted to local growing conditions, stresses and markets. AfricaRice also develops educational tools and processes to enhance the adoption of technologies. More information and description of research activities can be found here: <http://www.warda.cgiar.org/>

International Maize and Wheat Improvement Center (CIMMYT)

CIMMYT employs conventional and biotechnological techniques to improve the productivity, quality, nutritional component and resistance to disease and environmental shock of maize and wheat germplasm. CIMMYT develops tools for genetic enhancement, computational systems for crop improvement, as well as collects, conserves and distributes germplasm to partners. CIMMYT leads two CRPs, the Wheat-Global alliance for improving food security and the livelihoods of the resources-poor in the developing world CRP and the Maize- Global alliance for improving food security and the livelihoods of the resources-poor in the developing world CRP. More information and description of research activities can be found here: <http://www.cimmyt.org/en/>

International Water Management Institute (IWMI)

IWMI conducts research and analysis on various topics related to water. IWMI conducts assessments and develops tools related to irrigation, management of water in agriculture systems, and management of wetlands and natural resources. IWMI leads the Water, land and ecosystems CRP. More information and description of research activities can be found here: <http://www.iwmi.cgiar.org/>

USAID directs its contributions to specific Centers through Window 3, this gives USAID the ability to directly task any of the fifteen CGIAR research centers/or CRPs to carry out specific activities as determined by USAID according to programmatic needs and the areas of expertise of the center. The specific projects for a given fiscal year may comprise a broad range of activities, including:

- Research and analysis of technologies, policies, markets, investments, food and agricultural systems, natural resources and ecosystems, and the development of tools, mechanisms and strategies within these areas;

- Scientific training and capacity building, policy development, regulatory system development, information transfer and storage, and public outreach and education;
- Biotechnology enterprise development;
- Technology development, genetic resource maintenance, breeding programs and multi-location field trials or field testing, and distribution of new seed varieties and technologies.

II. Country and Environmental Information

i. Locations Affected

CGIAR's work is focused on the agriculture and natural resource sectors of developing countries throughout the world. The largest impact of CGIAR activities occurs particularly within rural areas of these countries. The development of improved seed varieties, techniques and technologies may have spillover effects through their adoption in developed countries as well. By its nature, CGIAR's work has the potential to impact a variety of ecosystems including agricultural lands, forests and aquatic habitats.

III. Evaluation of Environmental Impact Potential

The following table includes the recommended determinations for each class of activity associated with The Consultative Group on International Agriculture Research (CGIAR), it is fifteen research centers and the 15 Research CGIAR Research Programs (CRPs). For any project/research activity not covered under these conditions should be subjected to environmental evaluation/assessment under sub-project review.

Activity	Recommended Determination
1. Research and analysis of technologies, policies, markets and systems, local and national capacity building, which includes trainings, workshops and technical assistance.	<p>Categorical Exclusion, per</p> <ul style="list-style-type: none"> • 22CFR 216.2(c)(i) Education, technical assistance, or training programs • 22 CFR 216 (c)(2)(iii) Analyses, studies, academic or research workshops and meetings
2. All activities funded under Window 1 that may use pesticides, fertilizers and / or genetically engineered organisms (where Fund Donors may not allocate Window 1 funds against specific programs or activities, and therefore do not have the ability to attribute particular	<p>Negative Determination, subject to the following conditions</p> <ul style="list-style-type: none"> • CGIAR centers funded under Window 1 to follow each centers 'best practices' or environmental guidelines on pesticides, fertilizers, genetically engineered organisms use and application and other environmental considerations. • In the event that a center or a research program is found noncompliant with the following procedures for pesticide use and handling, USAID will raise the issue at the Fund Council in its role as a member and pursue corrective actions in a multilateral context. Procedures for safe use and handling of pesticides include: <ul style="list-style-type: none"> ○ Appropriate pesticide use protocols to safeguard the health

<p>outcomes or activities against Window 1 contributions)</p>	<p>of research personnel and to protect local ecosystems are developed and implemented, based on toxicological and environmental data for the proposed pesticides.¹</p> <ul style="list-style-type: none"> ○ Such safeguards will address pesticide storage, handling and application, including the use of Personal Protective Equipment (PPE), clean-up and disposal. ○ Pesticide-treated crops will not be used for human or animal consumption without proper evaluation and plan for safe use.
<p>3. All activities funded under Window 2 that may use pesticides, fertilizers and / or genetically engineered organisms (where Fund Donors may not designate Window 2 funds to specific activities within a CRP and therefore have limited ability to attribute particular outcomes or activities within a CRP against their Window 2 contributions)</p>	<p>Negative Determination, subject to the following conditions</p> <ul style="list-style-type: none"> • CGIAR Research Programs (CRPs) funded under Window 2 to follow each centers 'best practices' or environmental guidelines on pesticides, fertilizers, genetically engineered organisms use and application and other environmental considerations. • In the event that a center or a research program is found noncompliant with the following procedures for pesticide use and handling, USAID will raise the issue at the Fund Council in its role as a member and pursue corrective actions in a multilateral context. Procedures for safe use and handling of pesticides include: <ul style="list-style-type: none"> ○ Appropriate pesticide use protocols to safeguard the health of research personnel and to protect local ecosystems are developed and implemented, based on toxicological and environmental data for the proposed pesticides.² ○ Such safeguards will address pesticide storage, handling and application, including the use of Personal Protective Equipment (PPE), clean-up and disposal. ○ Pesticide-treated or genetically engineered crops will not be used for human or animal consumption without proper evaluation and plan for safe use.

¹ Per 22 CFR 216.3(b)(2)(iii) (Exceptions to Pesticide Procedures)

² Per 22 CFR 216.3(b)(2)(iii) (Exceptions to Pesticide Procedures)

<p>4. All activities funded under Window 3 (USAID funds are directed toward the particular activity) that involve genetically engineered organisms (GEOs) are subject to USAID biosafety policies and procedures and may require a separate biosafety review prior to the activity</p>	<p>Negative Determination, subject to the following conditions</p> <ul style="list-style-type: none"> • For activities involving genetically engineered organisms taking place in physically contained and controlled facilities such as laboratories, greenhouses, or animal barns, grantees must follow the National Institutes of Health "Guidelines for Research Involving Recombinant DNA Molecules" (http://oba.od.nih.gov/rdna/nih_guidelines_oba.html), as well as any applicable regulations in the country where the activity takes place. • <u>For all activities that involve the use of life or life attenuated viruses or other microorganisms for vaccine development and /or proof of concept research activities Must:</u> <ul style="list-style-type: none"> ○ <u>Follow appropriate competent authority and host institution biosafety guidelines and containment procedures</u> ○ <u>Follow the OIE (World Organization for Animal Health) guidelines for biosafety and biosecurity in the veterinary microbiology laboratory and animal facilities for group 2 or 3 pathogen (depending on the classification of the pathogen being used):</u> http://www.oie.int/fileadmin/home/eng/health_standards/tahm/1.01.03_biosafety.pdf ○ <u>Follow the biosafety procedures and good laboratory practices outlined in Section IV of the CDC Biosafety in Microbiological and Biomedical Laboratories (BMBL 5th edition,</u> http://www.cdc.gov/biosafety/publication/bmb15/)<u>For large scale vaccine production beyond the piloting/proof of concept stage an amendment to this IEE is required to cover the environmental safety for the new activity</u> • For activities involving confined field trials of genetically engineered organisms conducted on research sites owned or directly managed by the CGIAR center leading the activity, all centers will operate according to the guidelines established in their biosafety procedures, subject to review by their institutional biosafety committee, as well as any applicable regulations in the country where the activity takes place. • For activities that involve confined field trials (CFTs) of genetically engineered organisms on research sites managed by non-CGIAR partners and not directly controlled by the CGIAR center leading the activity, a biosafety review is required in accordance with USAID biosafety procedures, which requires submission of a supplemental CFT proposal to USAID for external
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	<p>review accompanied by evidence of host country biosafety approval for the specific activity¹. This biosafety review will be incorporated into a biosafety amendment to the Initial Environmental Evaluation with final concurrence required by the BFS Bureau Environmental Officer and the Agency Biosafety Officer.</p> <ul style="list-style-type: none"> For activities that involve the on farm field testing or deliberate open release of genetically engineered organisms into the environment, a biosafety review may be required, subject to the Agency Biosafety Officer's discretion and in accordance with USAID biosafety procedures, which requires submission of a supplemental proposal to USAID for external review accompanied by evidence of host country biosafety approval for the specific activity². This biosafety review will be incorporated into a biosafety amendment to the Initial Environmental Evaluation with final concurrence required by the BFS Bureau Environmental Officer and the Agency Biosafety Officer.
5. All non-GEO activities funded under Window 3 that involve applied research trials not exceeding 4 ha in a single location and DO NOT involve support for procurement or use of pesticides	<p>Categorical Exclusion, per</p> <p>22 CFR 216.2 (c)(2)(ii) Controlled experimentation exclusively for the purpose of research and field evaluation which are confined to small areas and carefully monitored</p>
6. All non-GEO activities funded under Window 3 that involve applied research trials not exceeding 4 ha in a single location DOES involve the procurement or use of pesticides	<p>Negative Determination, subject to the following conditions:</p> <ul style="list-style-type: none"> Appropriate pesticide use protocols to safeguard the health of research personnel and to protect local ecosystems are developed and implemented, based on toxicological and environmental data for the proposed pesticides.³ <p>Such safeguards will address pesticide storage, handling and application, including the use of Personal Protective Equipment (PPE), clean-up and disposal.</p>

¹ Information on biosafety application can be found at <http://rmportal.net/library/content/tools/environmental-regulations-compliance-tools>

Other regulatory information related to USAID biosafety could be found at:

http://www.usaidgems.org/Documents/complianceTopics/Biosafety_5Feb2010.pdf,

http://www.usaidgems.org/Documents/Presentations/6_22CFR216_10Oct2012.pdf,

<http://rmportal.net/library/content/tools/environmental-regulations-compliance-tools/tool-environmental-compliance-regulation-216-faa>

² Information on biosafety application can be found at <http://rmportal.net/library/content/tools/environmental-regulations-compliance-tools>

Other regulatory information related to USAID biosafety could be found at:

http://www.usaidgems.org/Documents/complianceTopics/Biosafety_5Feb2010.pdf,

http://www.usaidgems.org/Documents/Presentations/6_22CFR216_10Oct2012.pdf,

<http://rmportal.net/library/content/tools/environmental-regulations-compliance-tools/tool-environmental-compliance-regulation-216-faa>

³ Per 22 CFR 216.3(b)(2)(iii) (Exceptions to Pesticide Procedures)

	<ul style="list-style-type: none"> Pesticide-treated crops will not be used for human or animal consumption. (If crops are used for consumption, then this activity may be subject to development of a PERSUAP [see Section 4 of this IEE]; suspend activity and consult with the REA or BEO).¹
7. All non-GEO Activities funded under Window 3 that involve pesticides/insecticides and do not involve applied research exceeding 4 ha in a single location	<p>Negative Determination, subject to the following conditions:</p> <ul style="list-style-type: none"> Implementation of environmental best management practices (BMPs) for agriculture and irrigation. Such BMPs are available from USAID in the <i>Sector Environmental Guidelines</i> (available at http://www.usaidgems.org/sectorGuidelines.htm and http://www.encapafrica.org/egssaa.htm) The procurement or use, promotion of, or training in use of pesticides, including herbicides and fungicides, is disallowed until such time that a Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) is completed pursuant to 22CFR Regulation 216.3 (b)—USAID Pesticide Procedures—and duly approved.²
8. All non-GEO Activities funded under Window 3 that do not involve pesticides/ insecticides and do involve applied research exceeding 4 ha in a single location	<p>Negative Determination, subject to the following conditions</p> <ul style="list-style-type: none"> Implementation of environmental best management practices (BMPs) for agriculture and irrigation with particular. Such BMPs are in place at the respective CGIAR centers, and also available from USAID in the <i>Sector Environmental Guidelines</i> (available at http://www.usaidgems.org/sectorGuidelines.htm and http://www.encapafrica.org/egssaa.htm)
9. All activities funded under Window 3 that involve pesticides/ insecticides may be subject to additional environmental compliance procedures	<p>Negative Determination, subject to the following conditions:</p> <ul style="list-style-type: none"> Appropriate pesticide use protocols to safeguard the health of research personnel and to protect local ecosystems are developed and implemented, based on toxicological and environmental data for the proposed pesticides.³ Such safeguards will address pesticide storage, handling and application, including the use of Personal Protective Equipment (PPE), clean-up and disposal. Pesticide-treated crops will not be used for human or animal consumption. (If crops are used for consumption, then this activity may be subject to development of a PERSUAP [see Section 3 of this IEE]; suspend activity and consult with the REA or BEO).⁴ <p>Activities on farms or field trials < 4 hectares are recommended for Negative Determination, subject to the following conditions:</p> <ul style="list-style-type: none"> Appropriate pesticide use protocols to safeguard the health of research personnel and to protect local ecosystems are developed

¹ See also restrictions on genetically engineered organisms, Section 4.

² See also restrictions on genetically engineered organisms, Section 4

³ Per 22 CFR 216.3(b)(2)(iii) (Exceptions to Pesticide Procedures)

⁴ See also restrictions on genetically engineered organisms.

	<p>and implemented, based on toxicological and environmental data for the proposed pesticides.¹</p> <ul style="list-style-type: none"> • Such safeguards will address pesticide storage, handling and application, including the use of Personal Protective Equipment (PPE), clean-up and disposal. • Pesticide-treated crops will not be used for human or animal consumption. (If crops are used for consumption, then this activity may be subject to development of a PERSUAP <u>[see Section 3 of this IEE]: suspend activity and consult with the REA or BEO</u>).² <p>Activities conducted on areas > 4 hectares are recommended for a Negative Determination, subject to the following conditions:</p> <ul style="list-style-type: none"> • Preparation of PERSUAP consistent with guidance established in 22 CFR 216.3 "Pesticide Procedures" prior to procurement, distribution, use, handling, transport, or disposal of any pesticides
10. Activities funded under Window 3 and where the activity is not primarily limited scope research. Examples include: (large-scale agricultural or agro-forestry field trials, scale-up or commercialization of bio-technologies or veterinary pharmaceuticals) ,	May require a separate IEE amendment addressing the particular activities they are funding, to include the above considerations for genetically engineered organisms and/or pesticides. BFS BEO is responsible for making the determination on whether a Mission funded activity requires an IEE amendment.
11. Activities funded under Window 3, in particular where a USAID Mission is providing funding and management oversight, and where the activity is not primarily research	May require a separate IEE amendment addressing the particular activities they are funding, to include the above considerations for genetically engineered organisms and use of insecticides or pesticides. BFS BEO or Mission EO is responsible for making the determination on whether a Mission funded activity requires an IEE amendment.

¹ Per 22 CFR 216.3(b)(2)(iii) (Exceptions to Pesticide Procedures)

² See also restrictions on genetically engineered organisms.

IV. Recommended Threshold Decisions and Mitigation Actions

a. Recommended Threshold Decisions and Conditions

A **Negative Determination with Conditions** is recommended. Many activities under the *CGIAR grant* one or more categorical exclusions as listed above. Some activities, however, have the potential for environmental impact. Therefore the following conditions are recommended:

For all activities funded through CGIAR's "Window 1" or "Window 2" in which USAID funds are pooled with other donors, the following condition applies:

- All centers will operate according to the guidelines established in their environmental and biosafety procedures; for genetically modified organisms it must minimally meet those of the U.S. National Institutes of Health "Guidelines for Research Involving Recombinant DNA Molecules". These guidelines can be found at: http://oba.od.nih.gov/rdna/nih_guidelines_oba.html

For all activities conducted with directed USAID "Window 3" funding, the following conditions apply:

- For activities involving genetically engineered organisms taking place in physically contained and controlled facilities such as laboratories, greenhouses, or animal barns, grantees must follow the National Institutes of Health "Guidelines for Research Involving Recombinant DNA Molecules". These guidelines can be found at: http://oba.od.nih.gov/rdna/nih_guidelines_oba.html as well as any applicable regulations in the country where the activity takes place.
- For activities involving confined field trials of genetically engineered organisms conducted on research sites owned or directly managed by the CGIAR center leading the activity, all centers will operate according to the guidelines established in their biosafety procedures, subject to review by their institutional biosafety committee, as well as any applicable regulations in the country where the activity takes place.
- For activities that involve confined field trials (CFTs) of genetically engineered organisms on research sites managed by non-CGIAR partners and not directly controlled by the CGIAR center leading the activity, a biosafety review is required in accordance with USAID biosafety procedures, which requires submission of a supplemental CFT proposal to USAID for external review accompanied by evidence of host country biosafety approval for the specific activity¹. This biosafety review

¹ Information on biosafety application can be found at <http://rmpportal.net/library/content/tools/environmental-regulations-compliance-tools>

Other regulatory information related to USAID biosafety could be found at:

will be incorporated into a biosafety amendment to the Initial Environmental Evaluation with final concurrence required by the BFS Bureau Environmental Officer and the Agency Biosafety Officer.

- For activities that involve the **on farm** field testing or deliberate open release of genetically engineered organisms into the environment, a biosafety review is required in accordance with USAID biosafety procedures, which requires submission of a supplemental proposal to USAID for external review accompanied by evidence of host country biosafety approval for the specific activity¹. This biosafety review will be incorporated into a biosafety amendment to the Initial Environmental Evaluation with final concurrence required by the BFS Bureau Environmental Officer and the Agency Biosafety Officer.
- All activities funded through Window 3 from a Mission and managed by the Mission (including the use of genetically engineered organisms or the use of pesticides or both) may require a separate IEE amendment addressing the particular activities they are funding. BFS BEO or Mission EO is responsible for making the determination on whether an activity needs an amendment or not.

Monitoring: As required by ADS 204.3.4, USAID/BFS/ARP will actively monitor and evaluate whether there are new or unforeseen consequences arising during implementation that were not identified and reviewed in accordance with 22 CFR 216. USAID/BFS shall also monitor the need for additional review. If additional activities not described in this document are added to this program, an amended environmental examination must be prepared and approved.

Compliance with Host Country Requirements: Nothing in this IEE substitutes for or supersedes IP, sub-grantee and subcontractor responsibility for compliance with all applicable host country laws and regulations for all host countries in which activities will be conducted under the Feed the Future Innovation Lab for Reduced Post-Harvest Losses and Food Waste.

The IP, sub-grantees and subcontractor must comply with each host country's environmental regulations unless otherwise directed in writing by USAID. However, in case of conflict between host country and USAID regulations, the latter shall govern.

http://www.usaidgms.org/Documents/complianceTopics/Biosafety_5Feb2010.pdf,
http://www.usaidgms.org/Documents/Presentations/6_22CFR216_10Oct2012.pdf,
<http://rmportal.net/library/content/tools/environmental-regulations-compliance-tools/tool-environmental-compliance-regulation-216-faa>

¹ Information on biosafety application can be found at <http://rmportal.net/library/content/tools/environmental-regulations-compliance-tools>.
Other regulatory information related to USAID biosafety could be found at:
http://www.usaidgms.org/Documents/complianceTopics/Biosafety_5Feb2010.pdf,
http://www.usaidgms.org/Documents/Presentations/6_22CFR216_10Oct2012.pdf,
<http://rmportal.net/library/content/tools/environmental-regulations-compliance-tools/tool-environmental-compliance-regulation-216-faa>

ATTACHMENT 2: MAPPING OF GRAIN ACTIVITIES WITH CGIAR Global IEE

GRAIN Activity	CGIAR Activity	Recommended Determination	Required Mitigation Measures
Strengthening national and provincial capacity for conducting agricultural research on wheat, including agronomic practices, characterization of varieties and plant breeding, and reduction of post-harvest loss. It is envisioned that there will be some long term trainings such as MSc and PhD degrees needed in order to achieve the overall objectives of this activity.	Research and analysis of technologies, policies, markets and systems of local capacity building which include trainings, workshop and technical assistance	Categorical Exclusion per 22CFR 216.2(c)(i) Education, technical assistance, or training programs 22 CFR 216 (c)(2)(iii) Analyses, studies, academic or research workshops and meetings	
Strengthening human and institutional capacity in agricultural research management leading to a Wheat breeding program resulting in improved wheat productivity, with an emphasis on the scientific areas defined above.	Research and analysis of technologies, policies, markets and systems of local capacity building which include trainings, workshop and technical assistance	Categorical Exclusion per 22 CFR 216 (c)(2)(iii) Analyses, studies, academic or research workshops and meetings	
Strengthening the capacity of the national agricultural research system to collect, store, and analyze data to guide research and policy decisions.	Research and analysis of technologies, policies, markets and systems of local capacity building which include trainings, workshop and technical assistance	Categorical Exclusion per 22 CFR 216 (c)(2)(iii) Analyses, studies, academic or research workshops and meetings	

GRAIN Activity	CGIAR Activity	Recommended Determination	Required Mitigation Measures
<p>Enhancing the resources and facilities to carry out wheat and other seed breeding, characteristic and trait identification and other analysis including laboratory facilities, research field trial plots, fertilizers, pesticides and other inputs to propagate plants and develop new varieties.</p>	<p>All activities funded under window 1 that may use pesticides, fertilizers and or genetically engineered organisms</p>	<p>Negative Determination, subject to the following conditions</p>	<ul style="list-style-type: none"> - Follow best practices and environmental guidelines on pesticides, fertilizers, genetically engineered organisms and application and other environmental considerations - Appropriate pesticide use to safeguard the health of research personnel and to protect local ecosystems are developed and implemented based on toxicological and environmental data for proposed pesticides, as evaluated and recommended in a USAID-approved Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) - Such safeguards will address pesticide storage, handling and application, including the use of Personal Protective Equipment, cleanup and disposal - Pesticide-treated crops will not be used for human or animal consumption without proper evaluation and plan for safe use

GRAIN Activity	CGIAR Activity	Recommended Determination	Required Mitigation Measures
Conduct research with stakeholders to improve crop and water resource management for wheat.	Research and analysis of technologies, policies, markets and systems of local capacity building which include trainings, workshop and technical assistance	Categorical Exclusion per 22 CFR 216 (c)(2)(iii) Analyses, studies, academic or research workshops and meetings	
Conduct research with stakeholders to improve crop storage management and reduce post-harvest losses for wheat.	Research and analysis of technologies, policies, markets and systems of local capacity building which include trainings, workshop and technical assistance	Categorical Exclusion per 22 CFR 216 (c)(2)(iii) Analyses, studies, academic or research workshops and meetings	
Support the institutional and human resource capacity of the Ministry of Agriculture Irrigation and Livestock in the development of wheat and other seed varieties, seed breeding and varietal research trials	All non-genetically engineered organism (GEO) activities that involve applied research trails not exceeding 4 ha in a single location and <u>do not</u> involve support for procurement or use of pesticides	Categorical Exclusion, per 22 CFR 216.2 (c)(2)(ii) Controlled experimentation exclusively for the purpose of research and field evaluation which are confined to small areas and carefully monitored	
Support the institutional and human resource capacity of the Ministry of Agriculture Irrigation and Livestock in the development of wheat and other seed varieties, seed breeding and varietal research trials	All non-genetically engineered organism (GEO) activities that involve applied research trails not exceeding 4 ha in a single location and <u>do</u> involve support for procurement or use of pesticides	Negative Determination, subject to the following conditions	-Appropriate pesticide use protocols to safeguard the health of research personnel and to protect local ecosystems are developed and implemented based on toxicological and environmental data for proposed pesticides, as evaluated and recommended in a USAID-approved Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP) - Such safeguards will address pesticide storage, handling and application , including the use of Personal Protective Equipment, cleanup and disposal